

## Virginia

### January 1, 2014 – December 31, 2015 Programmatic Two-Year Milestones Closeout Report

Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
<b>Agriculture including CAFO/AFO</b>				
6/30/2014 6/30/2015	<b>A.1.</b> Conduct continuing education classes relative to nutrient management	6 classes each year	DCR	<b>COMPLETE</b> - Six continuing education classes on nutrient management were conducted in each of the milestones years.
11/1/2014 11/1/2015	<b>A.2.</b> Determine resource needs for agricultural BMP implementation through Soil and Water Conservation Districts (Phase I WIP, pg. 65-66, Phase II WIP, pg. 18)	Annually	DCR	<b>COMPLETE</b> - The Agricultural Needs Assessment was updated annually. The latest update reflected the impact of implementing existing SL-6 pending BMPs on WIP goals.
12/31/2014	<b>A.3.</b> Develop specific, targeted educational program for unpermitted dairies (Phase I WIP, pg. 66)		DCR	<b>COMPLETE</b> - DCR's Small Farm Specialists are working with small groups of these small operations to discuss the need to have plans and the importance of the benefits of following to be best of their ability. 89 small unpermitted animal operations have been contacted during the milestone period.
6/30/2015	<b>A.4.</b> Advance Healthy Waters program geo-referenced data sets	Update Bay watershed data sets	DCR	<b>COMPLETE</b> - Continued effort to update 10-year old data in Bay Watershed portions of the state including the data entry of 150 Ecologically Healthy Water Natural Heritage Element Occurrences have been added to DCR Natural Heritage Biotics Database for use in conservation planning and land conservation efforts and the Watershed Integrity Model is being revised to reflect changes in data sources and improve usability.
12/31/2015	<b>A.5.</b> Enhanced funding for livestock	Fund qualified stream	DCR	<b>CONTINUED</b> - Additional funding was

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	exclusion (Phase I WIP, pg. 63)	exclusion practices at 100% through FY15		budgeted for stream exclusion in the Chesapeake Bay watershed from federal Bay Grants (\$3.5M) and state funds (\$3M). An additional \$1.45M of USDA-NRCS Regional Conservation Partnership Program grant funds are available to targeted Chesapeake Bay sub-watersheds, in TMDL Implementation Areas, for livestock stream exclusion. The Governor announced in December that his budget included additional funds to begin to relieve the SL-6 backlog during the next milestone period. A final FY2017-2018 budget will be adopted in March, 2016 by the Virginia General Assembly.
12/31/2015	<b>A.6.</b> Continue development of the Resource Management Program and promote adoption in coordination with industry partners (Phase I WIP pg. 59, Phase II WIP pg. 19)	RMPs on at least 40 agricultural operations	DCR	<b>COMPLETE</b> - DCR assembled a marketing workgroup and developed educational materials. The regulations defining compliance have been adopted and outreach efforts have begun. DCR has staffed the RMP Program with three full-time positions. RMP plan development and implementation cost-share specifications have been developed and have been incorporated into the VACS program. Twelve individuals have been certified as RMP developers. \$780,000 was contracted for the development of computer applications to assist in the tracking and development of RMPs.

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				\$472,000 in Bay Grant funded contracts have resulted in 278 RMPs developed during calendar 2015, covering 48,000 acres in Virginia's Chesapeake Bay watershed.
12/31/2015	<b>A.7.</b> Increase the number of nutrient management plans on unpermitted dairies (Phase I WIP, pg. 76)	75% of facilities participating	DCR	<b>CONTINUED</b> - DCR issued a competitive Request for Applications (RFA) in June 2014 for private plan writing on unpermitted dairy operations. Three private certified NM planners were awarded a total of \$118,900 combined CBIG and NPS\$319 funding to develop plans on a targeted acreage of 18,612 acres. The contractors wrote nine plans on unpermitted animal operations. Small farm specialists have written 6 plans on unpermitted dairies since June 2015. Currently with help of specialists there are 88 dairies with current plans totaling 14,774.6 acres. This is about 15% of the known universe of unpermitted dairies with current NM plans.
12/31/2015	<b>A.8.</b> Track voluntary best management practice collection statewide (Phase I WIP, pg. 54)	BMP dataset for input to EPA-CBPO Watershed Model Progress Run	DCR	<b>COMPLETE</b> - All SWCDs have the ability to enter voluntary BMPs through the Agricultural BMP Tracking Program. A new grant initiative initiated a tillage survey in the Bay watershed in 2015 to capture conservation tillage acres for nutrient and sediment reductions. Chesapeake Bay SWCDs have been

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				contracted through April 2016 to collect voluntary BMP implementation data within their districts. District staff will assess the condition of structural BMPs to ascertain if they can have their life spans extended within the Chesapeake Bay watershed model. Additionally, over 1100 voluntary agricultural BMPs have been documented to date within 278 Resource Management Plans.
12/31/2015	<b>A.9.</b> Renew relationship with fertilizer companies to encourage and track precision agricultural application (Phase I WIP, pg. 65)	45,000 acres of precision agriculture each year	DCR	<b>CONTINUED</b> - DCR is continuing with this effort. An attempt to enter into an agreement with Southern States to report precision acreage was unsuccessful in 2015. DCR will seek to work with other companies in 2016 in an effort to get them to report precision practices.
12/31/2015	<b>A.10.</b> Increase nutrient management planning to include 85% of all applicable state-owned land (Phase I WIP, pg. 61)	780,000 acres agricultural nutrient management each year	DCR	<b>COMPLETE</b> - 85% of the 6,991.2 acres of state owned agricultural lands where nutrients are applied have plans. Notifications have been sent to all state agencies reminding them of the need to have current plans. 2015 Progress includes almost 700,000 acres under Nutrient Management Plans in the Bay Watershed.
12/31/2015	<b>A.11.</b> Report competitive grant project achievements, including BMP data to be credited in the Bay model	Reportable 2007-2014 BMP data digitized, analyzed	DCR	<b>COMPLETE</b> - The data analysis and digitizing of data are complete. Data from project achievements completed between

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		and included for VA accomplishments.		July 2014 and June 2015 have been reported for Bay Model credit for the 2015 progress run. Data from at least 24 projects completed prior to July 2014 and not previously credited will be prepared and submitted as part of the historical record for the next round of CBP model calibration.
12/31/2015	<b>A.12.</b> Develop agricultural nonpoint source assessment data to be used for Ag needs assessment, 305(b) report, NPS Management Plan, Chesapeake Bay and Virginia Waters Clean Up Plan and other reports	Data developed, analyzed and reported to DEQ	DCR	<b>COMPLETE</b> – The 2014 NPS Assessment produced estimated nitrogen, phosphorus, and sediment loads for 1236 6 <sup>th</sup> order hydrologic units. NPS Chapter for 305(b) completed. Ag NPS ranking evaluation produced from these results.
12/31/2015	<b>A.13.</b> Spatial reporting of nutrient management plan data	Tracking module to report spatially	DCR	<b>CONTINUED</b> - Spatial component of NutMan 4 computer application requires additional enhancements to integrate it into the Agricultural BMP/Resource Management Plan system. This will be contracted in 2016.
10/31/2014	<b>A.14.</b> Assess 48 VPA permitted facilities that have applied for VPDES CAFO permits to determine if they require VPDES permits (Phase I WIP pg. 74, Phase II WIP pg. 18)	Assess 48 facilities	DEQ	<b>COMPLETE</b> - All facilities which have applied for a VPDES CAFO permit have been assessed to determine if a permit is necessary. Based on the review, DEQ will be processing VPDES CAFO permits for four facilities located in the Bay watershed. The additional permit to be issued will be reflected in A.15. milestone.
12/31/2015	<b>A.15.</b> Convert applicable CAFO VPA	3 VPDES permits	DEQ	<b>CONTINUED</b> - The VPDES CAFO

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	permits to VPDES permits (Phase I WIP pg. 74, Phase II WIP pg. 18)	issued		permit template is complete and was approved by EPA. The template is being used to draft the VPDES CAFO permits. Four permits are being processed in the Bay watershed; DEQ expects to complete the draft permit packages for EPA review by April 2016.
12/31/2015	<b>A.16.</b> Complete evaluations of the remaining small AFOs in Virginia's portion of the Chesapeake Bay watershed in accordance with the Small AFO Strategy developed in cooperation with VDACS (Phase I WIP, pg. 76)	Completion of evaluation and, if necessary appropriate remedies initiated	DEQ/ VDACS	<p><b>CONTINUED</b> - A total of 1048 farms have been evaluated which includes farms not originally identified in the WIP. The evaluated farms include 649 - dairy cattle, 37 - poultry, 328 - beef cattle, 7 - swine, 8 - horse, 1 - alpaca, 6 - sheep and 12 - multi-animal type sites. Approximately 100 small poultry AFOs remain to be evaluated. Based on the evaluations completed, on-site assessments were needed at 371 farms, 229 of which have been completed. The on-site assessments identified 60 farms where owners were asked to initiate remedies (implement BMPs) to address water quality concerns including: Stream exclusion; vegetation establishment; Nutrient Management; and changes to the Operation and Management (O&amp;M) of the farm.</p> <p>Site visits were made at an additional 164 evaluated farms, these site visits provided an opportunity to educate the producer</p>

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				<p>about water quality issues; the benefits of the Small AFO Strategy; as well as, commend or encourage the BMPs. Additionally, DEQ and VDACS staff have coordinated or spoken at 74 meetings/trainings/field days since 2013.</p> <p>The goal during the next milestone period and beyond is to continue making progress in addressing any water quality concerns through the implementation of the Small AFO Strategy, This includes continuing to complete On-Site Assessments where possible while operating within the Agencies jurisdictional authorities; perform follow-up with the farm owners that agreed to initiate remedies to address water quality concerns; and provide outreach and education opportunities related to the benefits of the implementation of the Small AFO Strategy.</p>
<b>Urban including MS4</b>				
7/1/2014	<b>U.1.</b> Continue development of the Construction General Permit Coverage System as a management tool for the Virginia Stormwater Management Program (VSMP) regulations. The system will allow local entry of Construction General Permit registration statements and notice of termination	Construction General Permit Coverage System	DEQ	<b>COMPLETE</b> - Phase 2 of the Stormwater Construction General Permit System has been released to production. Phase 1 of the system allows DEQ and local government entry of Construction General Permit registration statements and notices of terminations,

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	information, including urban and suburban BMPs, into the database for regulated land-disturbing activities. This will allow DEQ to consolidate locality data for submission to EPA through the NEIEN (Phase I WIP, pg. 96)			including post-development BMPs for regulated land-disturbing activities. Phase 2 of the system now allows entry of Construction General Permit modifications and transfers, and basic inspection information for regulated land-disturbing activities.
7/1/2014	<b>U.2.</b> Issue TMDL Action Plan Guidance for MS4s	Guidance Memorandum	DEQ	<b>COMPLETE</b> - Original guidance issued 08/18/ 2014. Revised guidance issued 05/18/2015.
12/31/2014	<b>U.3.</b> Continue development of the Construction General Permit Coverage System as a management tool for the Virginia Stormwater Management Program (VSMP) regulations. Update the system to allow local entry of urban and suburban BMPs for unregulated land-disturbing activities. This will allow DEQ to further consolidate locality data for submission to EPA through the NEIEN (Phase I WIP, pg. 96)	Enhanced Construction General Permit Coverage System	DEQ	<b>COMPLETE</b> - Phase 2 of the Stormwater Construction General Permit System has been released to production. Phase 2 of the system now allows DEQ and local government entry of Construction General Permit modifications and transfers, and basic inspection information for regulated land-disturbing activities. Concurrently, a separate IT project developed a web-based reporting portal for use by all data providers, including local governments, allowing for submission of BMP data, QA/QC of that data and submission through NEIEN. The new BMP reporting portal was used to transmit 2015 Progress data to NEIEN.
12/31/2014	<b>U.4.</b> Complete development of a system to track, verify and report homeowner installed BMPs. The system will capture and report	Homeowner BMP Tracking System – “SMART”	Alliance for the Chesapeake	<b>CONTINUED</b> - System development experienced some delays due to contractual and technical issues, but has



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10/1/2015	data in a format suitable for state Bay Model progress submissions	Stormwater Management and Restoration Tracker  Report Homeowner BMPs for 2015 progress	Bay - Virginia Office/DEQ	been completed. Development and testing of the system was conducted in 2015. Pilot deployment is planned in Norfolk and Richmond. Two trainings are planned for Districts. Following the pilots and trainings full deployment will allow localities and/or Districts to begin using the system.
12/31/2014  12/31/2015	<b>U.5.</b> Issue 3 final MS4 individual permits and draft the remaining individual permits with the cooperation of the permittee, EPA, and other stakeholders.  Reissuing all remaining MS4 permits by the end of 2015 (Phase I WIP, pg. 93)	3 final Phase I MS4 permits issued, all remaining individual MS4 permits in draft  All final permits issued	DEQ	<b>CONTINUED</b> - Final MS4 Phase I individual permits reissued for 4 permittees: Chesterfield County and Prince William County effective in December 2014; Henrico County and Fairfax County effective April 2015.  Remaining six Phase I MS4 permits have been drafted; initial review by EPA complete; owner review complete. Permit reissuance delayed due to unresolved owner comments. DEQ is working to resolve permittees' concerns regarding draft permit conditions. Concurrently, draft permits were sent to EPA for final review on 11/24/2015. Awaiting comments from EPA. Anticipate draft permits to public notice in March 2016.
7/1/2014	<b>U.6.</b> Review MS4 program plans and issue permit coverage to the small MS4s newly designated based on the 2010 census	8 new localities or municipally owned facilities covered	DEQ	<b>COMPLETE</b> - Coverage provided under the small MS4 General VPDES Permit for all newly designated small MS4s.

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9/30/2014		Remaining 8 newly designated MS4s covered		
12/31/2014	<b>U.7.</b> Achieve reductions from new development and redevelopment using urban BMPs through ramped up compliance with the Virginia Stormwater Management permit (VSMP) and the stormwater provisions of the Chesapeake Bay Preservation Act (CBPA)	Compliance strategy, audit and inspection guidance	DEQ	<b>COMPLETE</b> - A Construction Stormwater Compliance Monitoring Strategy (CMS) has been developed that is consistent with the 2014 Clean Water Act National Pollution Discharge Elimination System Compliance Monitoring Strategy for the Core Program and Wet Weather Sources. The development of a revised Construction Stormwater CMS is also underway. Chesapeake Bay Preservation Act compliance reviews were reinitiated in the fall of 2015.
12/31/2015	<b>U.8.</b> Continue to implement contractor-applicator training and certification regulation, including a training and certification program for the proper handling, use, and application of fertilizer to non-agricultural lands. Establishes recordkeeping requirements for certified applicators (Phase I WIP, pg. 90)	Implement regulations	VDACS	<b>COMPLETE</b> - 2 VAC 5-405, <i>Regulations for the Application of Fertilizer to Non-agricultural Lands</i> , became effective February 1, 2012. Six (6) courses of training have been approved. One such course was developed jointly by Virginia Cooperative Extension (Virginia Tech), VDACS, and DCR, and it is available online at no cost to participants.  2,280 individuals have received

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				credentials as Certified Fertilizer Applicators (CFA).
12/31/2015	<b>U.9.</b> Nutrient Management on Urban Turf – update standards and criteria per 2013 legislation (Phase I WIP, pg. 90)	Train 110 urban nutrient management planners, 35 VT extension specialists and 600 VDACS-certified fertilizer applicators	DCR	<b>COMPLETE</b> - Standards and Criteria updates went into effect March 13, 2014. Four training sessions were held around the state for 80 certified planners, including multiple extension specialists who deal with urban nutrient management. DCR, with VDACS and VT, are working to update the CFA online training modules to reflect changes. Previously trained CFA's will be updated through continuing education opportunities. Three meetings have been held to educate and update Urban specialists with 93 in attendance. Over 1,600 Certified Fertilizer Applicators have been trained and certified through the joint DCR/VDACS/VT course of training.
12/31/2015	<b>U.10.</b> Nutrient management on urban turf – residential sector	Implement pilot project in 6 Phase II MS4-targeted communities	DCR	<b>COMPLETE</b> - 6 Phase I/II MS4 communities with pilot programs have certified urban nutrient management planners on staff. Planned acreage was included in 2014 and 2015 progress year reporting. Two meetings were held with localities and groups of localities to discuss potential program expansion.
12/31/2015	<b>U.11.</b> Nutrient management on urban turf – golf courses; begin development of cost-share	Urban nutrient management plans	DCR	<b>COMPLETE</b> - Grants were awarded for nutrient management plans on up to 100

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	program for golf course nutrient management (Phase I WIP, pg. 90)	completed on 11,000 golf course acres during the milestone period		golf courses, resulting in over 7,800 acres of golf course plans by December 2014. A second grant was issued in October 2014 awarding \$148,870 to 13 private certified urban NM plan writers for over 14,000 additional acres across the Commonwealth. A total of 13,100 Golf Course acres have current NMP's on a total of 122 golf courses.
12/31/2015	<b>U.12.</b> Nutrient management on urban turf – state-owned facilities (Phase I WIP, pg. 90)	85% of state owned facilities with active plans	DCR/ VDACS	<b>COMPLETE</b> - A nutrient management plan has been adopted for Department of Transportation properties. VDOT will assess the acreage that receives nutrients in new constructions and maintenance and will report such acreage annually. VDOT reported 160.45 acres of nutrients applied in 2015 to maintenance areas.  DCR worked with the DGS Division of Real Estate Services to obtain a database of all state-owned land. DCR is in the process determining which properties apply fertilizer. State-owned lands that currently have and previously had plans will continue to be renewed, tracked and reported. A mass mailing was made to all agencies notifying them of the need to have or revise NMP's on state owned lands. In 2015 we have 85% of all properties with current plans totaling

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				6,991.2 acres.
12/31/2015	<b>U.13.</b> Improve tracking and reporting of urban nutrient management including state-owned facilities and local government lands (Phase I WIP, pg. 90)	60,000 acres of urban nutrient management each year	DCR/ VDACS	<b>COMPLETE</b> - An updated UNM plan reporting system is being developed to allow real-time data collection. Combining DCR acreage data with VDACS's CFA acreage for the first time in 2015, resulted in 69,789.2 acres of urban lands under nutrient management. Additional spatial data elements are needed before the VDACS CFA acreage can be reported to the Bay Program for model credit.
7/1/2014 12/31/2015	<b>U.14.</b> Continue to implement amendments to the Virginia Fertilizer Law to protect water quality (Phase I WIP, pg. 90)	Implement new provisions	VDACS	<b>COMPLETE</b> - Provisions regarding zero phosphorous in lawn maintenance fertilizer, as well as certain deicing agents containing various forms of nitrogen or phosphorous became effective December 31, 2013. VDACS is seeking to ensure compliance through label review of lawn maintenance fertilizers at the time of product registration, and through marketplace inspections.  VDACS' Office of Plant Industry Services will continue to conduct inspections at retail locations for deicing agents which contain phosphorus. Inspections are scheduled to resume mid-November, 2015.

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				Provision regarding the slowly-available nitrogen content of lawn maintenance fertilizer and the application thereof became effective July 1, 2014.
12/31/2015	<b>U.15.</b> Establish pollutant removal efficiencies for typical roadway vegetated shoulders and drainage conveyances thereby promoting the use of such practices over those employing impervious materials		VDOT	<b>CONTINUED</b> - VDOT will continue its interest in establishing pollutant removal efficiencies for these practices.
12/31/2015	<b>U.16.</b> Provide DEQ stormwater management training to relevant VDOT stormwater personnel and contractors performing BMP review and inspection tasks		VDOT	<b>COMPLETE</b> - VDOT provided DEQ Basic and Inspector SWM training to 950 VDOT internal personnel and consultant personnel working under contract to VDOT (equivalent to 2,612 training days).
12/31/2015	<b>U.17.</b> Revise VDOT guidance documents to incorporate and promote the use of low impact development techniques and other innovative stormwater BMPs in roadway projects	Multiple guidance documents	VDOT	<b>CONTINUED</b> - This activity continues as guidance documents are updated.
12/31/2015	<b>U.18.</b> Continue “Stormwater Management Comparative Study of Porous Asphalt for I-66 and Route 234 Bypass Park & Ride Facility” to determine /develop maintenance requirements for permeable asphalt pavement	Study	VDOT	<b>CONTINUED</b> - This activity continues with monitoring and the collection of data.
<b>Onsite Sewage Systems</b>				
12/31/2014	<b>OSS.1.</b> Implement operation and maintenance (O&M) portions of final		VDH	<b>COMPLETE</b> - Staff released a guidance policy to support implementation of

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	<i>Alternative Onsite Sewage Systems (AOSS) Regulations</i> (12VAC5-613) (Phase I WIP, pg. 106)			O&M regulations in 2015.
12/31/2014	<b>OSS.2.</b> Train agency staff on new inspection, compliance, and enforcement procedures for alternative onsite sewage systems		VDH	<b>CONTINUED</b> – Four trainings were held for upper-level staff in March, April and December, 2015. Following issuance of the O&M implementation policy discussed in milestone OSS.1 above, additional trainings will be held for general staff in the next 2-year milestone period.
12/31/2014	<b>OSS.3.</b> Develop a Global Positioning System (GPS) guidance policy for VDH staff in order to facilitate a consistent approach to geolocating onsite sewage systems in the Bay watershed	Capture location of all new AOSS installed in the Bay watershed during the milestone period	VDH	<b>COMPLETE</b> - GPS guidance policy was released May 15, 2015 and is currently being implemented, with a focus on new AOSS installed in the Bay watershed that meet an approved BMP. Implementation of the new guidance policy will continue in the 2016-2017 milestone period to expand the work to all new AOSS in the Bay watershed. Training on the GPS units distributed to local health departments is planned for the next milestone period.
12/31/2015	<b>OSS.4.</b> Work with DEQ and local governments to capture and report the number of septic tank pump-outs that occur as a result of the Chesapeake Bay Preservation Act requirements (local ordinances), voluntary efforts and repairs throughout the Bay watershed	36,000 septic tank pump-outs each year	VDH/ DEQ	<b>COMPLETE</b> - For 2015 progress, 5,438 pump-outs occurred in the Bay watershed outside of the CBPA. 8,265 pump-outs occurred in the Bay Act area.
12/31/2015	<b>OSS.5.</b> Work with DEQ and local	600 sewer	VDH/ DEQ	<b>CONTINUED</b> - Where available, this

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	governments to capture and report the number of connections to public sewer	connections during the milestone period		information is provided annually to DEQ for Bay progress reporting. For 2015 progress, VDH reported 69 sewer connections in the Bay watershed. During the 2014-2015 period, VDH reported a total of 618 connections to public sewer. VDH plans to explore options for enhanced tracking and compilation of sewer connection data in the next 2-year milestone period.
12/31/2015	<b>OSS.6.</b> Report the number of alternative onsite sewage systems (AOSS) meeting the current BMP for 50% reduction, and the new BMPs for 20%, 38%, and 69% reduction, pending their final approval by the Chesapeake Bay Program	2,870 lbs TN load reduction over baseline conditions at the edge of drain field during the milestone period	VDH	<b>COMPLETE</b> - Updated calculations for the 2014 fiscal year showed 5,292 pounds of nitrogen reduced over baseline conditions for 701 new AOSS that met an approved BMP. For 2015 progress, VDH reported 621 AOSS meeting one of the approved BMPs. This equates to approximately 7,002 pounds of nitrogen reduced over baseline conditions in the fiscal year. During the two-year milestone period, VDH reported a total of 1,329 AOSS meeting an approved BMP, which equates to 12,294 pounds of total nitrogen reduced over baseline conditions at the edge of drain field.
12/31/2015	<b>OSS.7.</b> VDH continues to operate the VENIS database and look for ways to improve functionality		VDH	<b>CONTINUED</b> - QA/QC work is ongoing. Changes have been made in VENIS to track a new performance metric regarding repairs of failing septic systems. VDH will monitor repairs and aims to



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				resolve 40% of failing onsite septic systems within 60 days by 2016, and 43% of failing systems within 60 days by 2018. In addition, VDH is currently in the process of developing a Request for Proposals (RFP) to update or replace the current VENIS database. Meetings were held with staff and management on September 1 and November 10, 2015 to further develop Standard Operating Procedures (SOPs) and business practices, and VDH aims to publish the RFP in February of 2016. An updated or replacement database is expected to be released and in use by the end of the next 2-year milestone period.
12/31/2015	<b>OSS.8.</b> Work with EPA and other TMDL stakeholders to better predict nitrogen losses through various soil types and treatment unit combinations in order to improve the accuracy of the Chesapeake Bay Watershed Model predictions for the onsite sector, especially for systems located above the geologic fall line		VDH	<b>CONTINUED</b> - VDH staff is currently chair of a secondary expert review panel for CBPO Onsite Wastewater Treatment Systems Nitrogen Reduction Technology established in November 2015. Staff also continues to participate in the CBPO Wastewater Technology Workgroup (WWTWG), the CBPO Water Quality Goal Implementation Team (WQGIT), the Virginia Chesapeake Bay Stakeholder Advisory Group (CBSAG), the Virginia Sewage Handling and Disposal Advisory Committee (SHADAC), and the VDH Environmental Health Managers

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				meetings.
<b>Forest</b>				
12/31/2015	<b>F.1.</b> Continue with BMP training sessions for forest harvesting contractors, Professional Foresters and forest landowners	4 training sessions each year	VDOF	<b>COMPLETE</b> - Through VDOF programs, in cooperation with Cooperative Extension, the SHARP Logger Program offered 14 training programs with 307 participants in 2014. 10 Training Programs with 258 participants were offered in 2015
12/31/2015	<b>F.2.</b> Develop new on-line BMP training program for harvest contractors through VT Sustainable Harvesting And Resource Professional (SHARP) Logger Program focusing on underutilized harvesting BMPs and considerations for biomass harvesting practices	1 on-line training program each year	VDOF	<b>COMPLETE</b> – In 2014, developed a new logger training on-line course showing the beneficial use of harvesting slash (tree tops and limbs) in the stabilization of skid trails and bare soil areas. In 2015, created a video on-line program on the proper closeout of a timber harvest site with demonstration on installation of waterbars, stream crossing stabilization and timber bridge removal.
12/31/2015	<b>F.3.</b> Continue BMP implementation monitoring to determine BMP rates being applied to forest harvest sites within the Bay Watershed through funding provided by a CBRAP Grant		VDOF	<b>COMPLETE</b> - This has been accomplished for calendar years 2013 and 2014 with results showing 91% and 93% respectively, of appropriate BMPs being utilized on tracts harvested within the Bay Watershed. Monitoring meets the criteria set out in the Southern Group of State Foresters BMP Implementation Monitoring Protocol.

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12/31/2015	<b>F.4.</b> Provide cost-share to forest harvesting contractors to implement BMPs (Phase I WIP, pg. 110)	90% of harvested area treated	VDOF	<b>COMPLETE</b> - Funding in the amount of \$250,000 was received from the Commonwealth's Water Quality Improvement Fund. At total of \$150,000 has been allocated to the Logger BMP Cost-Share Program that is cost-sharing BMPs on those areas of impaired streams that are directly impacted by the timber harvest. To date, 29 projects have been implemented with 69% of those projects occurring within the Bay watershed. 100% of the projects involve the purchase of a portable bridge for stream crossings that will provide water quality protection to future sites within the Bay watershed and statewide.
12/31/2015	<b>F.5.</b> Continue enhanced enforcement of the Virginia Silvicultural Water Quality Law in the Chesapeake Bay Watershed utilizing CBRAP grant funding	Enforcement on 100% of harvest sites based upon agency established procedures and harvest inspection of each harvest site	VDOF	<b>COMPLETE</b> - VDOF has been actively engaged in enforcement of the Commonwealth's Silvicultural Water Quality Law. 124 WQ Law Actions took place on timber harvest operations within the Bay Watershed. There were 3,757 timber harvest sites within the Bay watershed for FY15. 100% of them were inspected covering 169,130 acres

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
12/31/2015	<b>F.6.</b> Provide cost-share funding to those landowners to establish riparian forest buffers that would not otherwise qualify for cost-share funding through federal programs (Phase I WIP, pg. 62)		VDOF	<b>CONTINUED</b> - \$100,000 from the Commonwealth's Water Quality Improvement Fund for FY2015 has been allocated to this program and all funding has been committed for projects to be completed in the Spring of 2016.
12/31/2015	<b>F.7.</b> Slow the loss of forestland conversion and associated water quality benefits resulting from necessary municipal infrastructure development (Phase II WIP, pg. 33)	2000 acres of avoided forestland conversion achieved by integrating DOF forestland loss mitigation assessments of proposed development projects into state environmental impact review (EIR) processes	VDOF	<b>COMPLETE</b> - VDOF is reviewing about 200 proposed projects per year as a participating agency in the Environmental Impact Review processes of the DEQ and VDOT and estimates over 4000 acres of forestland loss has been avoided since 2012 by integrating DOF forestland loss mitigation assessments of proposed development projects into the state environmental impact review (EIR) processes
12/31/2015	<b>F.8.</b> Open Field Targeting Initiative – target open lands in Central Virginia that are not currently being used in an agricultural capacity or are otherwise abandoned. Identify landowners and contact for tree planting (Phase I WIP, pg. 62)		VDOF	<b>COMPLETE</b> - VDOF has completed an open field targeting initiative in the counties of Greene, Madison, Culpepper and Orange to identify and contact landowners for tree planting projects. The effort has now been expanded to include the counties of Albemarle, Louisa, Goochland and Rappahannock in the Central Piedmont. In addition, grant funding for abandoned open-land planting projects to assist in covering 100% of tree

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				planting costs and maintenance for landowner establishment of trees on open land was completed in 2015 on 17 projects approved for 133.2 acres of tree planting at a total cost of \$136,945.
12/31/2015	<b>F.9.</b> Identification of incentives and drivers to assist communities directing growth away from key forestland assets such as groundwater recharge areas, intact and productive forests, and wildlife corridors to ensure forestland economic and ecosystem values are considered and weighed against competing land use options in land development decisions (Phase II WIP, pg. 34)	List of incentives and drivers with action plan for implementing vetted through discussion with communities	VDOF	<b>CONTINUED</b> - A Virginia team led by VDOF and DEQ was funded by the Chesapeake Bay Program to model alternative growth scenarios in a large pilot region to determine whether crediting the retention of forestland in the TMDL model could offset future possible economic costs required to meet TMDL targets and thereby incentivize localities to take such actions. The results showed significant costs savings are possible depending on land use policies and plans adopted. In 2016-2017 discussions will occur with localities to encourage adoption of such policies.
12/31/2015	<b>F.10.</b> Initiation of dialogue with EPA, Bay jurisdictions, and others to determine the feasibility of achieving credited TMDL nutrient or sediment reductions from conserving existing forestland in the context of the Chesapeake Bay model (Phase II WIP, pg. 34)	Convene a group comprised of EPA, Bay jurisdictions, state agencies, and other stakeholders to initiate a dialogue that focuses on valuing conservation of existing forestland in the Chesapeake	DEQ/VDOF	<b>CONTINUED</b> - The first phase of this dialogue has been accomplished successfully. In 2016 -2017 it will be expanded across the entire Rappahannock River Basin as a proxy for the Chesapeake Bay and Virginia will also reach out to Pennsylvania to join the effort. Funding has been provided by the Bay Program and will also be solicited from multiple NGO funding

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
		Bay model		organizations.
12/31/2015	<b>F.11.</b> Continue to focus riparian forest buffer establishment efforts in Potomac River Watershed and expand these efforts to the northern piedmont through the establishment of “Buffer Teams” composed of NRCS, FSA, DCR, VDOF, SWCD and other partners through a focused riparian forest buffer - GIS targeting / marketing initiative (Phase I WIP, pg. 62)	Work through a new 4 County area in Central Virginia in the same way targeting was accomplished in a 4 county Shenandoah Valley area	VDOF	<b>CONTINUED</b> - The first phase of the project is complete. New counties are now being considered for targeting in the Central Piedmont region. A direct mailing program will be initiated upon identification of targeted landowners.
12/31/2015	<b>F.12.</b> Permanently conserve forestland through permanent conservation easements or acquisition (Phase II WIP, pg. 34)	Conserve 6000 acres across the Virginia portion of the Watershed	VDOF	<b>CONTINUED</b> - VDOF currently administers a robust conservation easement and land acquisition program focused on keeping the forestland intact and undivided, enabling landowners to manage their forestland for timber products and environmental values. V DOF has been working in partnership with DCR and others on this objective.
<b>Industrial Stormwater</b>				
7/1/2014	<b>IS.1.</b> Provide coverage for an estimated 900 facilities under reissued industrial stormwater GP including effluent nutrient monitoring and offsetting of new or expanding industrial SW nutrient loads	Permit registrations	DEQ	<b>COMPLETE</b> - Coverage issued to 787 facilities in the Bay watershed under the 2014 Industrial Stormwater General Permit, which became effective 7/1/14.
7/1/2014	<b>IS.2.</b> Begin 2 year program of effluent nutrient monitoring at permitted industrial stormwater facilities in the Bay watershed	Industrial stormwater effluent monitoring program	DEQ	<b>CONTINUED</b> - All facilities in the Bay watershed have a permit condition that requires them to monitor their stormwater discharges for TN, TP and TSS. The

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
				permit requires that this monitoring be completed by July 2016.
<b>Wastewater</b>				
12/31/2014	<b>W.1.</b> Initiate reissuance of watershed GP including reduced WLAs in the James River basin as indicated in TMDL Appendix X	Publish NOIRA	DEQ	<b>COMPLETE</b> – NOIRA completed in March 2015 and proposed regulations released in December 2015. The comment period on the proposed regulations closes February 12, 2016.
<b>Extractive</b>				
12/31/2014 12/31/2015	<b>E.1.</b> Enhance coordination between DEQ and DMME to collect and report BMPs installed on active mine sites as well as reclamation of active and orphaned mines		DMME/DEQ	<b>COMPLETE</b> - DMME and DEQ have established procedures for reporting BMPs on extractive lands. The Bay Program approved the use of Erosion and Sediment Control along with expanding the applicability of mine reclamation in the Bay Model.
12/31/2015	<b>E.2.</b> Ensure compliance with permit conditions for proper site planning and best management practice implementation	24,000 acres of Erosion and Sediment Control on Extractive Lands each year	DMME	<b>COMPLETE</b> - There are 47,335 acres of permitted mine sites in the Bay watershed. 25,274 of those acres are disturbed and have BMP's installed on them. 2,456 of the permitted acres have had reclamation completed.
12/31/2015	<b>E.3.</b> Document and report reclamation of active and orphaned mine sites	1,000 acres of mine reclamation during the milestone period	DMME	<b>COMPLETE</b> - For the milestone period, 498 acres of orphaned mine reclamation was credited in the Bay watershed. This acreage is considered to be the correct total.
<b>Local Engagement</b>				
12/31/2014	<b>LE.1.</b> Develop a communications strategy		DEQ	<b>CONTINUED</b> - The Chesapeake Bay

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
	for engaging local stakeholders in WIP implementation, milestone planning and progress reporting (Phase II WIP, pg. 42)			Stakeholders Advisory Committee met quarterly to provide advice and feedback on milestones, implementation, the Bay Watershed Agreement and other topics of interest to the Bay Program partnership. The group is also used as a communications conduit to share information with stakeholders more broadly.
12/31/2015	<b>LE.2.</b> Complete comprehensive evaluation of historical implementation data to assess data quality and update accordingly for use in v6.0.model calibration		DEQ	<b>COMPLETE</b> - \$1.5M in CBRAP funding was made available to localities in 2015 to cover cost associated with collecting, formatting, and submitting quality BMP data for urban/developed lands and any available local land use/land cover data. 47 localities provided data through this grant. Historical BMP data was submitted to the Bay Program in October 2015. Additional efforts to incorporate additional data will continue through the 2017 Milestone cycle.
<b>Federal Facilities</b>				
10/1/2014 10/1/2015	<b>FF.1.</b> Engage federal agencies with facilities in Virginia to encourage participation in Bay TMDL planning, implementation and reporting as outlined in EPA guidance	Participation by all federal facilities larger than 500 acres	DEQ	<b>COMPLETE</b> - Load targets for 2017 and 2025 were developed in concert with federal agencies and EPA for all federal facilities in the watershed.  A Federal Facilities Workgroup has been established under the Bay Program Water



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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
				Quality Goal Implementation Team (WQGIT). The workgroup includes representatives from Bay Jurisdictions and federal agencies with land holdings in the watershed.
<b>Trading and Offsets</b>				
6/30/2015	<b>TO.1.</b> Expansion of Existing Nutrient Credit and Stormwater Offset program (Phase I WIP, Page 12)	Promulgate nonpoint source credit certification regulation	DEQ	<b>CONTINUED</b> - Public hearings held in February 2015 and comment period closed March 16, 2015. Because of number of significant topics identified during the comment period DEQ has decided to hold an additional Regulatory Advisory Panel meeting in late February 2016 for additional discussion. It is anticipated that final State Water Control Board action will occur in September 2016.
12/31/2014	<b>TO.2.</b> Begin development of online nutrient credit registry		DEQ	<b>CONTINUED</b> - Current registry maintained manually and made available on DEQ website. DEQ is assessing the <i>Registry and Marketplace</i> developed by Maryland Department of Agriculture and considering a scope of work for integrating existing DEQ systems with that registry.
2/1/2016	<b>TO.3.</b> Conduct study on the cost-effectiveness of nutrient credit use as an option for VDOT stormwater permitting requirements	Report	VDOT	<b>COMPLETE</b> - Initial study completed by the Virginia Center for Transportation Innovation and Research and published in August 2014. Potential for additional

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
				study being evaluated.
4/1/2014 4/1/2015	<b>TO.4.</b> Report results of wastewater nutrient monitoring and credit availability for the prior year's annual loads. Reports will be made available on DEQ's nutrient trading webpage	Report	DEQ	<b>COMPLETE</b> – 2013 and 2014 Nutrient Loads Report published on DEQ website in April 2015.
7/1/2014 7/1/2014	<b>TO.5.</b> Publish notice of all nutrient credit exchanges and purchases for the previous calendar year and make all documents relating to the exchanges available to any person requesting them. Reports will be made available on DEQ's nutrient trading webpage	Report	DEQ	<b>COMPLETE</b> - 2013 and 2014 Nutrient Trades Report published on DEQ website in July 2015.
<b>James River Phased Implementation/Chlorophyll Study</b>				
12/31/2015	<b>JR.1.</b> Define relationships between harmful algal blooms (HAB), indicators and designated use (DU) attainment (Phase I WIP, pg. 7 – 11)	Principal Investigator reports	DEQ	<b>COMPLETE</b> - Enhanced monitoring and laboratory bioassay experiments completed. Principal Investigator reports submitted and made available on DEQ's WQ Standards webpage. Reports served as the basis for the Science Advisory Panel's Empirical Relationships Report (see JR.3).
12/31/2015	<b>JR.2.</b> Continue to hold annual meetings of the Stakeholder Advisory Group (SAG)		DEQ	<b>CONTINUED</b> - 4th SAG meeting held in Nov. 2015; agenda included Project Scope, Background; JR Chl <i>a</i> Study: Progress, Upcoming Activity; Study Details and SAP Meeting Summary; Assessment Method Evaluation; and, Upcoming Timeline.

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
11/30/2014 5/31/2015	<b>JR.3.</b> Continue development of empirical relationships between HAB measures and designated use attainment	Science Advisory Panel (SAP) recommendations	DEQ	<b>CONTINUED</b> - Work ongoing. Science Advisory Panel's draft report: " <i>Empirical Relationships Linking Algal Blooms with Threats to Aquatic Life Uses in the James River Estuary</i> ", received March 2015; revised draft submitted July 2015. DEQ review comments sent to SAP in fall 2015; await Final Draft Report (expected by end of Jan. 2016).
7/31/2015	<b>JR.4.</b> Utilize model to assess chlorophyll-a criteria alternatives, including the existing standards	Scenario and Alternatives Analysis Report	DEQ	<b>CONTINUED</b> - Model Review Workgroup held a joint meeting in January 2015 with modeling contractors to review calibration statistics and validation. Model deemed satisfactory for scenario runs, which began in fall 2015. Model development schedule extended to February 29, 2016, to allow for output post-processing done by the EPA-CBPO modeling team.
12/31/2015	<b>JR.5.</b> Continue development of models for indicators, nutrient inputs and HABs (Phase I WIP, pg. 9)	Final Model Study Report	DEQ	<b>CONTINUED</b> - Two deliverables, " <i>Scenario and Alternatives Analysis Report</i> ", and " <i>Final Model Study Report</i> ", both due by the revised modeling contract completion date; February 29, 2016.
<b>Additional Activities not Included in Original 2014-2015 Milestones</b>				
	Develop online application to allow distributors of fertilizer to submit the required tonnage reports	Online application is moved to production	VDACS	<b>CONTINUED</b> - Virginia Code § 3.2-3610 requires commercial distributors of fertilizer to file annual reports to the Commissioner of VDACS showing the

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
				city or county where the product was distributed, the amounts (expressed in tons, or decimal portions) of each grade of fertilizer, and the form of the product, e.g., in bags, bulk, or liquid). This information is currently reported in hardcopy forms and must be subsequently entered by hand, a time-consuming process that takes months to complete. A web-based application is currently under development with anticipated completion date of July, 2016.
	Issue Request for Applications for the distribution of \$28 million in Stormwater Local Assistance Funds		DEQ	<b>COMPLETE</b> – DEQ solicited applications for SLAF grant assistance. The first solicitation funded 64 projects in 25 localities totaling \$21,488,776 in grant funds. The second solicitation received applications from 26 localities for 77 water quality projects totaling \$36,034,361 in SLAF grant funds. Project proposals are being evaluated to determine project eligibility and priority ranking for the \$8 million in available funds.
* As part of the adaptive management process for achieving water quality goals, jurisdictions may submit programmatic milestones that modify, are in place of, or are in addition to milestones listed in their WIPs so long as the jurisdiction can demonstrate that they will be as effective toward meeting water quality goals.				